

THE PRESENT ABUNDANCE OF BIRDS IN THE VICINITY OF FORT ST. MICHAEL, ALASKA.¹

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To the student of ornithology there is always a certain interest attached to the birds that inhabit the far north; those hardy species that disdain the milder climate of more southern latitudes and rear their young on the bleak Arctic tundra, leaving only when the threatened freezing of land and sea warns them of approaching winter. The warmer parts of the earth have bird life in great abundance and variety, with many bright plumaged forms to delight the eye and not a few that entrance us with their songs, and it seems natural that birds should flourish in such places. But, if we leave these familiar feathered friends behind and push our way northward, until the forests give place to scattered patches of low alders and willows, and these in turn are replaced by great stretches of open tundra, we will still find both sea and land inhabited by vast numbers of feathered creatures. Few in number are the species, but countless the individuals that make up the avian population of the north. Many spend their entire lives in this zone, retreating, at winter's approach, only a short distance south where they linger about the edge of the ice pack until the snow begins to melt on the tundra and the ice to thaw about the tundra ponds. Then they again push northward to their breeding grounds where they are joined by others; winter sojourners in our own land, but now strangely unfamiliar in their nuptial plumage.

While there are, probably, few places on the Arctic or Bering Sea coasts that are without bird life during summer, some localities seem to be more suited than others to the needs of boreal species. One such region is the stretch of tundra in the vicinity of St. Michael. The village, itself, is built on a spot somewhat elevated, but to the south and southwest there stretches away a great territory but little above sea level; in fact, so low that an unusually high tide inundates large sections. Scattered about are innumer-

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able small ponds, and these are often connected by little creeks, thus forming a perfect network of waterways. In addition, two tide channels, known as 'canals,' run through the section cutting it off from the mainland and forming St. Michael Island. From these canals there radiate smaller channels, or 'creeks,' which penetrate the region in all directions. The water in both canals is salt and varies in depth with the rise and fall of the tide. When the tide is out large mud flats, of an exceptionally soft, sticky character, are left exposed, which, during August, are frequented by large flocks of migrating shore birds. These two canals vary somewhat in size and are generally spoken of as the Big and Little Canals. They unite just before reaching the sea both at the St. Michael and at the farther ends. The banks of the Little Canal, and the country which it traverses, are of a slightly higher elevation than that described above. They are covered with a growth of moss, small creeping plants, and a little coarse grass and make a breeding ground for shore birds, ptarmigan and jaegers, as well as a few ducks, terns and small birds. The lower country about the Big Canal is the chosen haunt of loons, gulls, ducks and cranes during the nesting season and in fall of migrating water fowl of all kinds.

At the entrance to the canal is an island, of interest as being one of the few known breeding places of the Aleutian Tern. In St. Michael Bay and close to the village stands Whale Island, where a few Horned Puffins and occasionally a Glaucous Gull nest, while some fourteen or more miles away is Egg Island,—the resort of Pacific Kittiwakes, Pallas's Murres and Horned Puffins. Across the bay a low range of hills stands out prominently to view. They are set back some distance from the shore and the stretch of marshy tundra between their base and the water's edge renders them difficult to reach, except when the ground is frozen in winter. They are all probably of volcanic origin; two of them, with high apertures in their sides being clearly extinct craters.

This locality, so favorably situated for bird study, has been the scene of several ornithologists' labors, and a number of works on Alaskan birds have been published, based, more or less, on studies made at this point. Of these, Mr. Nelson's book¹ stands pre-

¹ Report upon Natural History Collections made in Alaska between the years 1877 and 1881 by E. W. Nelson. No. III Arctic Series of Publications Issued in Connection with the Signal Service, U. S. Army, Washington, 1887.

eminent. Since 1881, when Mr. Nelson left St. Michael, very little extended work seems to have been done there. Dr. Louis B. Bishop spent a short time there in 1899 and probably a few collectors have stopped, for a day or two, at various times since, but for over thirty years almost nothing has been published from this part of Alaska.

During this time many changes have taken place in the abundance of birds in other parts of North America. Species formerly numerous have become rare or even, in a few cases, extinct, while the settling up of the country has forced others to seek new breeding grounds, or adapt themselves to the advance of civilization in those already occupied. To set forth present conditions in this part of Alaska, and point out some of the changes that have taken place since 1881, are the purposes of the present paper; but nothing is intended in any way, as a criticism of any published statements of others.

From the descriptions of the early writers, it appears that St. Michael formerly consisted of a mere handful of houses. The settlement was a post of the Alaska Commercial Company and had very little communication with the outside world. The discovery of gold at the point where Nome now is and at various places along the Yukon River, about sixteen or seventeen years ago, resulted in a short period of very rapid growth. Steamers began making regular trips from Seattle during the season of navigation and hundreds of people flocked to the country. Wooden hotels were hastily erected but many of the arrivals were obliged to find shelter in tents pitched upon the shores of the bay. Several stores were opened and without doubt their proprietors reaped a rich harvest for a while. Soon, a line of river steamers was in operation between St. Michael and points on the Yukon and passengers and provisions were transported to the various mining camps. St. Michael thus became the junction point for travel between the interior and Seattle. With the advent of so many people, it became necessary to station troops at certain points to maintain order and army posts were established at Nome, St. Michael and Gibbon.

Like most towns that spring up almost in a night, a reaction soon set in and, for several years past, the population has been rapidly shrinking. Today, most of the buildings that were used as hotels

are abandoned, with doors and windows boarded up, while the river steamers, with a few exceptions, are drawn up on the beach where they are gradually falling to pieces. The outlook for the future is as dreary as the surrounding country.

Fortunately the influx of so many people did not have any disastrous effect on the bird life of the country. Without doubt some birds were shot for food, as they still are, but in the main, the people were too engrossed in their pursuit of gold to do much hunting.

During the writer's cruise along the Alaskan coast in 1914, several short stops were made at St. Michael and in 1915 plans were laid to spend the entire summer at this place. Favorable ice conditions allowed us to reach our destination as early as May 29 and the entire time until September 8 was spent there. Through the courtesy of the War Department quarters were provided at the Army Post and from there the writer explored a large part of the surrounding country.

At the time of my arrival and for a few days afterward, the sun shone from a cloudless sky with a warmth and brightness that I have seldom seen exceeded anywhere. This condition, however, was too good to last and there came, soon afterwards, a series of southerly gales accompanied by high tides that flooded all the low country and destroyed the nests of large numbers of breeding waterfowl. The gales subsiding, there followed several weeks of as disagreeable weather as can be imagined. Heavy clouds obscured the sun and fogs and light rains were frequent. A slight breeze, at times, piled up great cloud masses which would chase one another across the sky for hours, without breaking sufficiently to allow a view of the sun. The breeze at last dying out, the fog would again settle over everything. This condition lasted until about August 20 when a few sharp frosts seemed to clear the atmosphere and more pleasant weather followed although from this time, until the end of my stay, high winds prevailed.

Taken altogether, the climate of St. Michael is one of the most disagreeable I have ever experienced. Nevertheless it appears to have no depressing effect on the bird life of the country. Waterfowl are particularly numerous,—loons, gulls and ducks being most abundant.

Of the Loons the Red-throated is the commonest and the one

most often taken. A Black-throated species is also found in the proportion of perhaps ten percent, but it is a shyer species and less frequently obtained. I assumed it to be *arctica*, as this is the bird recorded by Nelson, but the only specimens I secured, two in number, proved to be *pacifica*. The Horned Grebe is rare in the region. A single bird only was seen and was secured. Horned Puffins breed quite abundantly on Egg Island and a few also nest on Whale Island. Among them an occasional Tufted Puffin may be noted. Pallas's Murre also breeds on Egg Island in about the same numbers as the Horned Puffin but unlike that species is rarely seen in St. Michael Bay.

The Pomarine Jaeger is seen about the bay for a few days after the ice goes out in spring. Usually they are found in pairs but none breed there. The Long-tailed and Parasitic Jaegers both breed and both are generally rather abundant, but their numbers vary somewhat on different days and in different years and I believe, from observations, as well as from the condition of specimens collected, that a part of the birds seen were not breeding.

The Pacific Kittiwake breeds in large numbers on Egg Island and is very common in St. Michael Bay during the entire summer. Mr. Nelson states that "none were found near St. Michael's after the migration until toward the end of July or 1st of August," so it is evident that they have either changed their habits or increased in abundance since he wrote. When the salmon were running in June, and the natives had seines placed at various points along the shore, great numbers of Kittiwakes were present and fed upon the refuse from cleaning the fish. Even after the fishing was over they lingered about the bay and there were few days when specimens could not have been shot from the dock. As Mr. Nelson does not mention the Egg Island breeding colony it is possible that it is but recently established and would explain the increase in the number of birds of this species now found about the bay.

Closely resembling the Pacific Kittiwake in life, the Short-billed Gull could be easily overlooked while feeding about the bays, but during the summer most of them retire to the tundra ponds. They are common at all times especially after the young have learned to fly.

Large flocks of Glaucous Gulls, made up largely of birds in imma-

ture plumages, are to be found during the entire summer about the outer bays. Adults in full nuptial plumage are less common and the species appears to breed in fewer numbers than at other points on the coast.

The Glaucous-winged Gull is rare at St. Michael and probably does not occur much north of there. In the fall, both the Slaty-backed and Vega Gulls are to be seen off shore but they do not often come into the bays. After I had boarded the steamer for the homeward trip, and before we got under way, both these species were seen with other gulls about the stern of the ship.

Probably the most abundant gull is the beautiful little Sabine's. This species suffered considerably from the gales and high tides during June and many nests were found that had been destroyed. No second attempt was made at nesting and less than a dozen young birds were seen during the summer. Eggs were found June 5, young but recently hatched on June 19, and the first young on the wing July 18.

Two species of terns are found. The Arctic Tern is very abundant and is found everywhere,—about the bay, on the islands and upon the tundra, often some distance from the sea. The Aleutian Tern is restricted to two small islands (perhaps to one) and occurs in very small numbers. One of these islands is situated at the mouth of the canal as already noted. Mr. Nelson describes the island and states that "twenty pairs or so" were nesting there when he visited it. This colony was still in existence when I landed on the island in 1914 and I estimated it "did not exceed (apparently) 100 birds" (Smithsonian Misc. Coll. Vol. 66, No. 2). From the observations made in 1915, and the greater familiarity with the species thus secured, I am confident the actual number of birds in the colony was between 65 and 75.

Upon my arrival in 1915 several days were spent in watching the birds and actual counts and various estimates were made of their numbers, all of which showed that the increase in the colony during the last thirty-five years had been very small.

After nesting commenced, a series of photographs was secured and a few eggs collected. Then the island was not visited for a month to allow the birds to hatch their young undisturbed, but on again landing late in July very few adult birds could be found and

no young were seen while the presence of a Short-eared Owl upon the island seemed to explain the cause. The Owl had apparently destroyed all the young and most of the adults as several subsequent counts showed only thirteen birds remaining.

The other colony mentioned by Mr. Nelson (at Kegiktoiwik) I did not visit. A man was engaged to take me there but the breaking of the propeller shaft on his boat forced me to give up the trip as no other boat could be secured. Inquiries were made of a trader who sometimes stopped at the village and it was learned that a few "small gulls" (perhaps Aleutian Terns?) nested there. So far as I know these are the only breeding colonies of this species on the Alaskan coast.

Mr. Nelson states that a few Violet-green Cormorants nest near St. Michael but they are never very numerous. No cormorant, of any kind, was seen during my stay there and I doubt if any now breed there.

It is probable that the greatest decrease in the abundance of bird-life in this locality is to be found in the members of the order Anseres. While ducks, as a whole, were quite abundant, their numbers were much less than at the time Mr. Nelson's observations were made.

When the ice first breaks up in the bay flocks of Red-breasted Mergansers, Scoters (*O. americana*) and Pacific Eiders are to be found congregated about the rocky projections of small islands, or resting and preening their feathers on large ice cakes about the entrance to the canal. The Eiders remain all summer and breed, but are confined to the strip of tundra bordering the bay and were never found very far back from the open water. They also are plentiful on Stuart Island. The Scoters all disappear after the first days in June and I never found any evidence of their breeding. The Red-breasted Mergansers also were not seen after the ice left the bay, but during August I obtained three or four half grown young, so a few still breed there.

Back on the tundra spring arrives earlier than it does about the bay. The ice breaks up in the tundra ponds and the snow nearly all disappears long before the sea ice goes out. A trip through the canal at the time of the "break-up" shows the small ponds to be filled with ducks of several species. The Pintail is most numerous and probably nearly, if not quite, equals the combined totals of all

other species. The Old-Squaw is also abundant and the Greater Scaup ranks third. All these species breed.

Other ducks are uncommon and I found few breeding. The Mallard was seen once or twice and one nest was found on June 9. I saw none of its plumage in any of the natives' feather ornaments. The Green-winged Teal is rare in spring but for a few days in August there was quite a flight and a number were shot. One of the rarest ducks at the present day is the Spectacled Eider. In 1914 I saw three in the canal on June 8 and the remains of one at the army post the previous day. During 1915 the species was met with but once,— seven birds being seen on June 5. No evidence of its breeding was found.

During the migrations in spring and fall geese occur in some abundance I was told, and by the end of August a few flocks were beginning to pass over, while after September 1 they were seen almost daily. They were largely made up of White-fronted Geese and this species also breeds in very small numbers. The only Snow Geese seen was a flock of five on June 19. I imagine the Emperor Goose occurs at times in the fall but I have no positive evidence of it.

The Whistling Swan is now very rare about St. Michael. Many people told me they had occasionally seen them in spring or fall but very few had ever shot one. Some maintained that they nested "back in the hills" (a breeding ground assigned to all species whose nests they had never seen). If they nested anywhere near St. Michael, some would surely have been seen, but I did not meet with a single swan at St. Michael or in any part of Alaska.

The Little Brown Crane still occurs rather commonly and breeds. Late in August and early in September small flocks, probably migrants, were seen flying over, often at a great height. The largest number seen in any one flock was fourteen.

The Northern Phalarope was the only species of this family found breeding at St. Michael where several of their nests were found, usually in the wetter parts of the tundra. Eggs were found from June 5 to 16 and downy young June 19. Many adults were found to be in full moult on July 13, and from July 26 to August 11 specimens in full winter plumage predominated.

The most numerous sandpiper on the tundra is the Western but

the Long-billed Dowitcher is also quite abundant. The Pectora Sandpiper I found decidedly uncommon during the breeding season while the Red-backed was not found at all until after the fall migration began. The first Red-backed Sandpiper seen was an adult in worn plumage taken July 18 and soon after the species became common.

Wilson's Snipe is uncommon. About three pairs were breeding somewhere near St. Michael,—the males, being frequently seen and heard "winnowing," which attracted attention to the species and gave the impression that it was rather common.

Toward the end of July the Aleutian Sandpiper became very common about the rocky parts of the beach. Early in August they all disappeared and no more were found during my stay. All the specimens collected were adults in nuptial plumage.

Dr. Bishop tells me he found many in September nearly all of which were immature. Mr. Nelson gives the time of their arrival and departure as the last of July until the middle of October, so there are probably two distinct northward movements or migrations of this species,—an early one composed of adults and a later one of young birds.

The Pacific Godwit is much less common during the summer than at the Yukon Delta but during August becomes abundant.

The Hudsonian Curlew and Black-bellied Plover are uncommon, a stray pair only being seen now and then. The Golden Plover was not seen at all. As Mr. Nelson found this to be "one of the commonest breeding waders," and in view of its scarcity on our eastern coast in recent years, it seems not improbable that the species may be nearer extermination than is generally realized. The Pacific Golden Plover was met with three times. Once on June 30 when a bird in breeding plumage was seen and secured and on August 15 and 22 when two birds, doubtless migrants were seen, one of which was secured each date.

The Black Turnstone is a common bird especially on rocky beaches,—the Ruddy Turnstone less so. In one of these rocky locations a single Wandering Tattler was seen on June 10.

About the first of August a very noticeable migration of shore-birds takes place about St. Michael. The great expanse of mud flats left by the falling tide along certain parts of the canal, and

which had previously been used as resting places by the gulls, suddenly became the resort of hundreds of sandpipers. Long-billed Dowitchers, Pectoral and Red-backed Sandpipers predominated with constant additions of Western Sandpipers as the young became grown and the birds commenced to flock. Phalaropes were sometimes seen and once or twice flocks of Curlews. Here the Pacific Golden Plovers mentioned above were found, and, in one place, a very large flock of Pacific Godwits (apparently all young birds) were present for several days.

As I was passing these flats in my boat on August 4, I was surprised to see four Knots feeding together and secured all. While Turner apparently found this species at St. Michael, Mr. Nelson secured but a single specimen during his residence there. Later in the day a flock of fifteen or more birds which I thought were this species were seen at some distance, feeding on a mud flat, but the mud was too soft to walk through and after several attempts to approach them I was forced to give it up. On August 8 I again encountered two parties of two birds each, and secured all four. Later the species proved to be quite common.

During the summer of 1914, Willow Ptarmigan were numerous and I was told they were very abundant during the fall and early winter often coming about the houses. In the spring of 1915 and throughout the summer they were scarce and very few were seen. This condition was not entirely local as reports of their rarity were heard from many other parts of the coast. It is possible that, when they have increased beyond a certain point, an epidemic of some sort thins their ranks and thus keeps the species within the limits prescribed by nature.

Hawks are uncommon in this locality during summer. One or two which I did not identify were seen at times and during August immature Marsh Hawks were noted a few times and one taken.

The Short-eared Owl was the only species of this family encountered during the summer. They were quite numerous upon the tundra, being fully as common as I have ever found them to be in more southern parts of their range. Both the Snowy and Hawk Owls occur in fall and early winter according to the statements of several residents, but neither were seen by me.

In the A. O. U. Check-List a form of the Great Horned Owl is

credited to this locality. The range assigned to this subspecies (*Bubo virginianus algistus*) is the "coast region of northern Alaska from Bristol Bay and the Yukon delta northward." This is a stretch of country, that, with the exception of two or three comparatively small areas, is without trees of any kind and is, therefore, wholly unsuited to the requirements of this species. The few birds that occur, do so in fall or winter, and are clearly migrants or stragglers from the wooded regions. Along the Yukon, in the interior, are heavy forests where Horned Owls of some form almost certainly occur. The A. O. U. Committee do not, however, include this vast territory within the range of any subspecies. Both Oberholser and Ridgway refer specimens from Nulato to *lagophonus*, — a form which the A. O. U. Committee does not consider as separable from *saturatus* but, on the other hand, the range of *saturatus* is given only as including Ft. Yukon in the interior of Alaska.

If all the birds from the interior are *saturatus*, then *algistus* must be restricted to the small wooded spots about the head of Norton Sound (and possibly the Kowak River), during the breeding season. This is a very small area to produce a distinct form of a species with the solitary and unsociable habits of the Great Horned Owl, but it is certain that it does not inhabit, and breed upon, the low marshy tundra that makes up the "coast region of northern Alaska."

Woodpeckers, like most of the owls, occur in fall or early winter as stragglers or migrants from the wooded regions. While passing through the village on September 4 a familiar note arrested me in my walk and caused me to turn aside. Two Downy Woodpeckers (*nelsoni*?) were perched on the roof of a building where they remained but a moment or two before flying away toward the southeast. I fear they had many weary miles to cover before reaching another resting place.

The Northern Raven is uncommon near St. Michael and was the only member of the family observed. Not far from the two volcanic hills previously mentioned a single Raven (probably the same individual) was seen a number of times. This bird and one or two others observed in northern Alaska and Siberia were exceedingly wary; this trait forming a striking contrast to the boldness of the Unalaska birds.

Song birds are represented by few species and none are character-

ized by very great musical ability. The simple song of even the most humble performer is, however, often a source of much pleasure.

The sweetest song is probably that of the Alaska Longspur and this is also the most abundant song bird. The males in their showy nuptial dress are the most conspicuous objects on the tundra in early summer, while the duller colored and less obtrusive females are equally numerous but easily overlooked. After the young can fly and their parents have moulted into winter plumage, troops of these gay birds can often be found in patches of weeds about the houses. Here they will be flushed day after day until, toward the last of August or early in September, we suddenly miss them from their accustomed places and discover they have slipped away, unnoticed to take up a brief residence in a land less wind-swept and desolate.

Another bird frequently seen about the village, but only in early summer, is the Gambel's Sparrow. Perched on some house-top the males pour forth their songs for a short time during June. Later we find them among the alders where they nest and soon after the young are out of the nest all leave for the south. Among the alders and willows we find other birds. The shy Fox Sparrow is sometimes seen and the Western Tree Sparrow is found in almost every clump. The roving Hoary Redpolls with their darker colored cousins, the common Redpolls (in this locality, however, less common than *exilipes*), flit about from bush to bush or roam about the country in loose flocks, visiting the village and often feeding about the door-step, but returning to the alders to build their nests and hatch their young. Sometimes they nest in other situations and I was shown one nest, built in a small bush in a dooryard in the village. The nest was finished and eggs laid about ten days before my arrival.

Two species of swallows are common at St. Michael during the summer. The Tree Swallow is most numerous and nests in any available niche or crevice about buildings. Mr. Nelson has written that this species was only a migrant when he resided at St. Michael. The increase in the number of buildings in the village offers many suitable nesting sites which the swallows have not been slow to use. This species, with its graceful flight, attractive plumage, and not unpleasant twittering notes makes a welcome addition to the

summer bird life of the region. The Barn Swallow is not so common as the above species, probably because suitable nesting places are scarce. I have found their nests in empty houses but most of the birds about St. Michael build in or upon the unused river steamers that are drawn up on the shores of the bay.

None of the warblers were seen by the writer in this locality and the Alaska Chickadee, Kennicott's Willow Warbler and Siberian Red-spotted Blue-throat (species obtained by previous observers in the region), were not met with. The Alaska Yellow Wagtail was abundant and on August 8 a single Pipit was seen.

The shy Gray-cheeked Thrush is a summer resident of the alder thickets from which his whistled call note or clear ringing song may often be heard. This is the only thrush I observed but many of the residents state that a stray Robin or two is occasionally seen in spring.

In closing, I wish to acknowledge my appreciation of the interest shown in my work by all with whom I came in contact while in the north. To the officers at the Army Post,—Lieuts. Jepsom (commanding) and Rentfro, and Dr. L. T. Ferenbaugh,—I am especially indebted; not only for placing at my disposal facilities for visiting localities that would have been inaccessible without their kind assistance, but also for the pleasure of their company on several of my excursions about St. Michael, as well as for many little acts of thoughtfulness that added greatly to the pleasure and comfort of my stay there. Several of the enlisted men at the post also rendered valued assistance in handling my boat or procuring specimens, especially Sergt. Loftin who frequently accompanied me on trips afield.